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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2859	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/813,077	TANGO ET AL.	
	Examiner	Art Unit	
	Gail Verbitsky	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 03/31/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim objection

1. Claims 4, 12, 20 are objected to because of the following informalities:

A) Claims 4, 12: "the peripheral velocity" in line 2 lacks antecedent basis.

B) Claim 20: "the rotary member" in line 12 lacks antecedent basis. Perhaps applicant should replace "the rotary member" with –the photosensitive image carrier--?

Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities: It appears that the limitations stating in claim 24 have not clearly described in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It appears that the limitations stating in claim 24 have not clearly described in the specification. According to the specification, the component is a developer segment. Therefore, in the second (passive) mode, the rotary brush(es) should be driven by other

developer segments, however, according to claim 20, which claim 24 is dependent on, in the second mode, the rotary brush(es) are driven by rotation of the rotary member, which is most likely a photosensitive image carrier, but not developing devices. Clarification in the specification is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language is confusing due to the reasons stated above in paragraph 4.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-5, 7, 9-15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimuzi et al. (U.S. 20020181965) [hereinafter Shimuzi].

Shimuzi discloses in Fig. 1 an image forming apparatus comprising a rotary member 1 capable of carrying an image recording material on its surface, a rotary brush 2-A which contacts (rubs and slides) on the surface of the rotary member 1, wherein, during a pre-process step, so-called preliminary (prescribed) multi-rotation or warming up rotation, the brush 2-A is passively rotated by the member 1 (paragraph [0079])

different from the normal image forming operation (active rotation). This would imply, that the number of the passive rotations is finite, and thus, does not exceed a predetermined/ prescribed number before the first mode is executed. The brush is driven by the member 1 during the passive rotations. A bias current/ voltage is applied to either the brush or to the member 1. There is, inherently, some controlling device/ controller to control the brush rotation.

Claims 4, 7: The brush 2-A is a charging member which charges the member 1 when in a charging position, wherein when in active rotation (image formation/ first mode), the peripheral velocity of the rotary brush 2-A is different relative to the member 1 (abstract).

Claim 5: the member 1 is a photosensitive image carrier (page 9, claim 8).

Shimuzi teaches a nip C (n) in paragraph [0019].

Shimizu does not explicitly teach the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, and 18.

With respect to the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, 18, absent any criticality, is only considered to be the "optimum" amount/ range of the push and nip used by Shimuzi that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the type of the brush and the required quality, etc. ***See In re Boesch, 205 USPQ 215 (CCPA 1980).***

9. Claims 1, 4-5, 8-9, 12-13, 16, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro et al. (U.S. 5671476) [hereinafter Ishiguro].

Ishiguro discloses in Fig. 2 an image forming apparatus comprising a photosensitive rotating drum (rotary member) 2, a rotary cleaning brush 54 is rotationally driven by the drum (col. 4, lines 60-65) (passive mode) or rotated by a charge (col. 5, lines 38-65) (active mode). A pressure/ push p and a nip width n are chosen such that the brush only cleans the dust and not the image (col. 4, lines 66-68, col. 5, lines 1-37). The peripheral velocity of the brush is different from the peripheral velocity of the drum during the active/ first mode (cols. 7-8). Cleaning voltage is applied to the cleaning brush. There is, inherently, some controlling device/ controller to control the brush rotation.

Ishiguro does not explicitly teach the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims, and active/ passive rotations.

With respect to the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, 18, 22-23, absent any criticality, is only considered to be the "optimum" amount/ range of the push and nip used by Shimuzi that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the type of the brush and the required quality, etc. ***See In re Boesch, 205 USPQ 215 (CCPA 1980).***

10. Claims 1, 6, 8-9, 14, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara (U.S. 6470154).

Shinohara discloses in Fig. 2 an image forming device comprising an intermediate transfer member (rotary member) 9, a rotary cleaning brush 39 which rubs and slides on a surface of the rotary member wherein, the rotary cleaning brush 39 is being controlled by a motor 41. In addition, the brush 39 is operated during a first/ active mode when it is spaced from the rotary member 9, and during a second (passive) mode when the brush 39 is bearing against the rotary member 9 and rolls with the rotary member (driven by rotary member) 9 (cols. 4-5). There is a mechanism for pushing the brush toward and spacing from the rotary member 9 (col. 5, line 14). This would imply that the mechanism pushes the brush in at some depth (amount of push) **p**. There is, inherently, some controlling device/ controller to control the brush rotation.

Shinohara does not explicitly teach the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims.

With respect to the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, 18, 22-23, absent any criticality, is only considered to be the "optimum" amount/ range of the push and nip used by Shimuzi that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine

experimentation based, among other things, on the type of the brush and the required quality, etc. ***See In re Boesch, 205 USPQ 215 (CCPA 1980).***

11. Claims 1-3, 5, 8-11, 13, 16, 18-19, 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (U.S. 5845174) [hereinafter Yasui].

Yasui discloses in Fig. 1, 10 an image-forming device comprising a plurality of developing devices 208, a plurality of rotary clean brushes 235 to rub and slide over (clean) a transfer drum/ photosensitive image carrier (rotary member) 202. The device further comprising a controller (CPU) 60 controlling the brushes' rotational operations. Also, Yasui teaches to control nips of the brush to a desired nip size, and a pressure (push p) is controlled by a cam drive circuit 62. The brushes rotate for a first mode/ active rotation/ non-contact and a second mode/ passive rotation/ contact, as described in cols. 6-8. A power supply applies a voltage bias to provide a necessary pressure (push) at least during the contact rotation. There is, inherently, some controlling device/ controller to control the brush rotation.

It is inherent, that the cumulative number of rotations of the rotary brushes in the first mode is executed before the number of rotations of the rotary brushes in the second mode exceeds a prescribed/ desired number of rotations, in order the device to operate properly and according to a desired program.

Yasui does not explicitly teach the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, 18, and 22-23.

With respect to the particular amount or push **p** (pressure) of the rotary brush against the rotary member, as stated in claim 1, and the particular nip **n,** as stated in claims 1, 9, 18, 22-23, absent any criticality, is only considered to be the "optimum" amount/ range of the push and nip used by Shimuzi that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the type of the brush and the required quality, etc. ***See In re Boesch, 205 USPQ 215 (CCPA 1980).***

12. Claims 7, 15, 20, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui in view of Seanor (U.S. 4457615).

Yasui discloses in Fig. 1, 10 an image-forming device comprising a plurality of developing devices (components providing developers/ toners) 208, a plurality of rotary cleaning brushes 235 to rub and slide over (clean) a transfer drum/ photosensitive image carrier (rotary member) 202. The device further comprising a controller (CPU) 60 controlling the brushes' rotational operations. Also, Yasui teaches to control nips of the brush to a desired, and pressure (push p) is controlled by a cam drive circuit 62. The brushes rotate for a first mode/ active rotation/ non-contact and a second mode/ passive rotation/ contact, as described in cols. 6-8. A power supply applies a voltage bias to provide a necessary pressure (push) at least during the contact rotation. There is, inherently, some controlling device/ controller to control the brush rotation.

Yasui does not teach that the brushes are charging brushes as stated in claims 7, 15, 20, 25.

Seanor discloses in Figs. 1-3 a device in the field of applicant's endeavor comprising two brushes being combined charging and cleaning brushes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by Yasui, so as to have a combined cleaning brush being a charging brush, as taught by Seanor, so as to provide simultaneously two different functions and thus, to reduce the costs and the complexity of the image forming device, as already suggested by Seanor.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 17, 20-21, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasui et al. (U.S. 5845174) [hereinafter Yasui].

Yasui discloses in Fig. 1, 10 an image forming device comprising a plurality of developing devices 208, a plurality of rotary clean brushes 235 to rub and slide over (clean) a transfer drum/ photosensitive image carrier (rotary member) 202. The device further comprising a controller (CPU) 60 controlling the brushes' rotational operations. Also, Yasui teaches to control nips of the brush to a desired nip size, and a pressure (push p) is controlled by a cam drive circuit 62. The brushes rotate for a first mode/ active rotation/ non-contact and a second mode/ passive rotation/ contact, as described in cols. 6-8. A power supply applies a voltage bias to provide a necessary pressure

(push) at least during the contact rotation. There is, inherently, some controlling device/ controller to control the brush rotation.

It is inherent, that the cumulative number of rotations of the rotary brushes in the first mode is executed before the number of rotations of the rotary brushes in the second mode exceeds a prescribed/ desired number of rotations, in order the device to operate properly and according to a desired program.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

Hayakawa et al. U.S. 5563691 disclose in Fig. 7 an image-forming device comprising a rotary member, a rotary cleaning member (brush) 21, an electric potential applying member 14.

Draugelis et al. U.S. 3841751 disclose in Fig. 1 a device comprising a plurality of developing devices 17-19 and a plurality of brushes 39-40 and a photosensitive element (rotary member) 13.

Ikunami et al. U.S. 5648840 disclose in Fig. 1 an image forming apparatus comprising an image forming body (rotary member) 1, a conductive brush is pressed against the rotary body during an active/ first mode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gail Verbitsky whose telephone number is 571/ 272-2253. The examiner can normally be reached on 7:30 to 4:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571/ 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GKV

Gail Verbitsky
Primary Patent Examiner, TC 2800

September 27, 2005